Math 211
Quiz 10A

T 23 Jul 2019

Your name : _____

Exercise

(5 pt) Consider the matrix

$$A = \begin{bmatrix} -1 & 0 & -2 \\ 1 & -1 & 2 \\ 0 & -2 & 4 \end{bmatrix}.$$

(a) (2 pt) Show that $\det A = 4$.

(b) (2 pt) Apply the row reduction algorithm to $\left[\begin{array}{c|c} \mathbf{A} & \mathbf{I}_3 \end{array}\right]$ to show that

$$A^{-1} = \frac{1}{4}\begin{bmatrix} 0 & 4 & -2 \\ -4 & -4 & 0 \\ -2 & -2 & 1 \end{bmatrix}.$$

(c) (1 pt) What is $\det A^{-1}$? *Hint:* You can answer this without computing $\det A^{-1}$ directly. How?